

WHAT IS CLAIMED IS

Sub 1
1. A system for selecting bus mastership in a multi-master system, comprising:
a plurality of master devices configured to generate control signals relating to bus
mastership in the multi-master system; and

at least one slave device configured to receive the control signals from the master.

5 devices, determine whether a conflict exists based on the control signals, generate one or more
alternate control signals for selecting bus mastership when a conflict is determined to exist, and
select bus mastership using the one or more alternate control signals.

2. The system of claim 1, wherein the at least one slave device comprises:

10 bus selection logic configured to determine whether the control signals indicate
that two or more of the master devices concurrently assert bus mastership and generate a
conflict indication signal when two or more of the master devices concurrently assert bus
mastership, and

conflict resolution logic configured to generate the one or more alternate control
signals in response to the conflict indication signal.

15 3. The system of claim 1, wherein the one or more alternate control signals include a
bus switch signal that indicates whether a change in bus mastership is to occur and a bus select
signal that indicates which of the master devices is to be granted bus mastership.

4. The system of claim 1, wherein the at least one slave device includes:

bus selection logic configured to determine whether the control signals indicate that none of the master devices asserts bus mastership and maintain a previous bus mastership selection when none of the master devices asserts bus mastership.

5. The system of claim 1, wherein the at least one slave device is further configured to select the bus mastership based on the control signals when no conflict is determined to exist.

6. The system of claim 1, wherein the control signals include a present signal that indicates whether a corresponding one of the master devices is operating and a master signal that indicates whether a corresponding one of the master devices asserts bus mastership.

7. The system of claim 1, wherein the control signals include a master signal that
 10 indicates whether a corresponding one of the master devices asserts bus mastership.

8. A system for selecting a master in a multi-master system, comprising:

means for generating at least one control signal relating to mastership in the multi-master system;

means for determining whether a conflict for mastership exists based on the at least one control signal;

15 means for generating one or more alternate control signals when a conflict is determined to exist; and

means for selecting a master using the one or more alternate control signals.

9. A method for selecting a bus in a multi-bus system, comprising:
generating control signals relating to bus selection in the multi-bus system;
determining whether a conflict for bus selection exists based on the control signals;
generating one or more alternate control signals when a conflict is determined to exist;

5 and

selecting a bus using the one or more alternate control signals.

10. The method of claim 9, wherein the determining includes:
determining whether the control signals indicate that two or more of the buses are
to be selected concurrently, and
generating a conflict indication signal when the control signals indicate that two
or more of the buses are to be selected concurrently.

11. The method of claim 10, wherein the generating one or more alternate control
signals includes:

generating the one or more alternate control signals in response to the conflict
indication signal.

12. The method of claim 9, wherein the one or more alternate control signals include
a bus switch signal that indicates whether a change in bus selection is to occur and a bus select
signal that indicates which of the buses is to be selected.

13. The method of claim 9, further comprising:
determining whether the control signals indicate that the buses are idle; and
maintaining a previous bus selection when the control signals indicate that the buses are
idle.

5 14. The method of claim 9, further comprising:
selecting a bus using the control signals when no conflict is determined to exist.

15. The method of claim 9, wherein the control signals include a present signal that
indicates whether a corresponding bus is operating and a master signal that indicates whether a
corresponding bus is to be used.

10 16. The method of claim 9, wherein the control signals include a master signal that
indicates whether a corresponding bus is to be used.

17. A computer-readable medium that stores instructions executable by one or more
processors to perform a method for selecting a master in a multi-master system, comprising:
instructions for generating control signals relating to selection of a master in the multi-
15 master system;
instructions for determining whether a conflict for selection of a master exists based on
the control signals;

instructions for generating one or more alternate control signals when a conflict is determined to exist; and

instructions for selecting a master using the one or more alternate control signals.

18. In a multi-master system having a plurality of master devices and a plurality of slave devices, each of the slave devices comprising:

bus selection logic configured to determine whether control signals from the master devices indicate that two or more of the master devices concurrently assert bus mastership, generate a conflict indication signal when two or more of the master devices concurrently assert bus mastership, and select bus mastership using one or more alternate control signals when two or more of the master devices concurrently assert bus mastership; and

conflict resolution logic configured to generate the one or more alternate control signals to identify bus mastership in response to the conflict indication signal.

19. The slave device of claim 18, wherein the one or more alternate control signals include a bus switch signal that indicates whether a change in bus mastership is to occur and a bus select signal that indicates which of the master devices is to be granted bus mastership.

20. The slave device of claim 18, wherein the control signals include a present signal that indicates whether a corresponding one of the master devices is operating and a master signal that indicates whether a corresponding one of the master devices asserts bus mastership.

21. The system of claim 18, wherein the control signals include a master signal that indicates whether a corresponding one of the master devices asserts bus mastership.

22. The system of claim 18, wherein the bus selection logic is further configured to select the bus mastership using the control signals when the control signals indicate that one of
5 the master devices asserts bus mastership.

23. A method for selecting bus mastership in a multi-master system having a plurality of master devices and a plurality of slave devices, comprising:

determining whether control signals from the master devices indicate that two or more of the master devices concurrently assert bus mastership;

generating one or more alternate control signals to identify bus mastership when two or
10 more of the master devices concurrently assert bus mastership;

selecting bus mastership using the one or more alternate control signals when two or more of the master devices concurrently assert bus mastership; and

selecting bus mastership using the control signals when one of the master devices asserts
15 bus mastership.

24. The method of claim 23, wherein the one or more alternate control signals include a bus switch signal that indicates whether a change in bus mastership is to occur and a bus select signal that indicates which of the master devices is to be granted bus mastership.

25. The method of claim 23, wherein the control signals include a present signal that indicates whether a corresponding one of the master devices is operating and a master signal that indicates whether a corresponding one of the master devices asserts bus mastership.

26. The method of claim 23, wherein the control signals include a master signal that
5 indicates whether a corresponding one of the master devices asserts bus mastership.

27. A multi-master system, comprising:
a plurality of master devices configured to generate control signals relating to bus
mastership;
conflict resolution logic configured to receive the control signals from the master
10 devices, determine whether the control signals indicate that two or more of the master devices
concurrently assert bus mastership, and generate one or more alternate control signals when it is
determined that two or more of the master devices concurrently assert bus mastership; and
a plurality of slave devices configured to select bus mastership using the one or more
alternate control signals when the control signals indicate that two or more of the master devices
15 concurrently assert bus mastership.

28. A multi-bus system, comprising:
a plurality of buses;

a plurality of master devices corresponding to the buses, each of the master devices controlling a corresponding one of the buses, the master devices generating control signals that indicate which of the buses is an active bus; and

a plurality of slave devices connected to each of the buses and configured to receive the control signals, determine whether the control signals indicate that two or more of the buses are declared active buses, and select one of the buses when the control signals indicate that two or more of the buses are declared active buses.

29. The multi-bus system of claim 28, wherein the slave devices are further configured to generate alternate control signals when the control signals indicate that two or more of the buses are declared active buses and select one of the buses using the alternate control signals.

30. The multi-bus system of claim 28, further comprising:
conflict resolution logic configured to receive the control signals, determine whether the control signals indicate that two or more of the buses are declared active buses, and generate a plurality of alternate control signals when it is determined that two or more of the buses are declared active buses.

31. The multi-bus system of claim 30, wherein the slave devices are configured to select one of the buses using the alternate control signals.